



Laura Perego

Curriculum Vitae

Personal Information

Date and place of birth 21.01.1992, Varese (VA), Italy
Home address Via Pietro Micca, 43/B, Varese (VA), 21100, Italy
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Education

- Nov. 2018– **PhD student** at *European Laboratory for Non-Linear Spectroscopy (LENS)*, Firenze, Italy.
Now I am attending my third year in the Biophysics Group of Dr. Marco Capitanio. In particular I deal with optical manipulation at the single molecule level using Optical Tweezers and with fluorescence force microscopy.
- Sep. 2018 **Master degree** in Physics at *Università degli Studi di Milano-Bicocca*, Milano, Italy.
Final score 110/110.
Master thesis title: "*Misure di forze intramolecolari tramite microscopia FRET*" at *European Laboratory for Non-Linear Spectroscopy (LENS)*, Firenze, Italy.
In this work, I studied and developed an optical setup to combine optical manipulation of living cells through Optical Tweezers and detection of intramolecular forces using specific fluorescent sensors which undergo efficient FRET phenomenon.
- Oct. 2015 **Bachelor degree** in Physics at *Università degli Studi di Milano*, Milano, Italy
Final score 97/110.
Bachelor thesis title: "*Sensori magnetici innovativi in biomedicina*" at *Università degli studi di Milano*, Milano, Italy.
In this work, I studied systems of superparamagnetic nanoparticles that were functionalized for specific targets and then used as biological sensors. Their behavior was then analyzed by the Nuclear Magnetic Resonance technique.
- Sept.2006– **Scientific High School Certificate** at *Liceo Galileo Ferraris* in Varese, Italy.
July.2011 **Final score** 81/100.

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Work Experience

- Aug. 2017–Now **Professional Waterpolo Athlete** in the Italian Major League Championship for the Rari Nantes Florentia female team.
- 2013–Now **Private tutor** of Math, Physics, Science and so on.
- Aug. 2008–May 2017 **Professional Waterpolo Athlete** for different teams in Lombardia in the Italian Major League Championship.

Publications

- Oct. 2019 C. Arbore, L. Perego, M. Sergides, M. Capitanio *"Probing force in living cells with optical tweezers: from single-molecule mechanics to cell mechanotransduction"* Biophysical reviews 11.5 (2019): 765-782.
- Mar. 2021 M. Sergides, L. Perego, T. Galgani, C. Arbore, F.S. Pavone, M. Capitanio *"Probing mechanotransduction in living cells by optical tweezers and FRET-based molecular force microscopy"* The European Physical Journal Plus 136.3 (2021): 1-19.

Grants and awards

- Feb. 2019 Grant of 450 Euros from the **BIO-BRILLOUIN cost action** to participate to the *"Emerging Tools in Biomechanics"* training school held at *Palazzo Franchetti* in Venice, Italy.

Presentations

- Mar. 2019 L.Perego, C.Arbore, M. Sergides, F.S. Pavone, M. Capitanio (2019) *Combining Optical Tweezers and Molecular Tension Microscopy to study mechano-transduction in living cells*. Poster presented at the *"Nanoengineering for mechanobiology"* meeting held in Camogli, Genova, Italy
- Feb. 2019 *Optical manipulation and force microscopy to reveal the mechanisms of human stem cells differentiation*. Oral presentation of my research work at the *"Emerging Tools in Biomechanics"* training school held at *Palazzo Franchetti* in Venice, Italy

Professional memberships

- Aug. 2018–Now Member of the **Italian Society of Pure and Applied Biophysics (SIBPA)**

Languages

- Italian** Mother tongue.
- English** Level C1, fluently spoken and written. FCE certification, Grade A, achieved in May, 2010.

Informatic Skills

- Languages** C++, Matlab, Python, Latex.
- Operating Systems** Windows, Linux.

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